DESIGN-BUILD PROCUREMENT PROCESS REPORT

Appendix 1 – Report on the Design–Build Strategic Planning Workshop

MARCH 2003

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

GEORGE E. PATAKI, Governor

JOSEPH H. BOARDMAN, Commissioner

DESIGN-BUILD PROCUREMENT PROCESS REPORT

Appendix 1 – Report on the Design–Build Strategic Planning Workshop

PREPARED BY

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

FOR

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

MARCH 2003

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP
MEETING SUMMARY

Date: April 2, 2002 and April 3, 2002

Time: 1:00 P.M. to 5:00 P.M. and 9:00 A.M. to 5:00 P.M.

Place: The Desmond Hotel and Conference Center
660 Albany-Shaker Road
Albany, NY 12211

Project: Miscellaneous Services to Develop Procedures for Management and Administration of a Design-Build Program
P.I.N. A999.19.701, D012586

Purpose: Development of a Design-Build Procurement Strategy

Attendance:

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

P. Wells	Office of Engineering	518-457-4430
J. O'Connell	Structures Div.	518-457-6827
R. Sack	Technical Services Div.	518-457-4445
R. Morris	Real Estate Div.	518-457-2430
J. Tynan	Construction Div.	518-457-6472
R. Grathwol	Contract Mgmt. Bureau	518-457-2600
E. Kerness	Contract and Tort Bureau	518-457-2411
T. Perreault	Legal Affairs	518-457-2411
G. Burgess	Government Relations Div.	518-457-3437
D. D'Angelo	DQAB	518-457-6467
R. Lee	DQAB	518-457-4449
J. Kaczmarck	DQAB	518-457-2099
N. Schips	DQAB	518-485-8611
F. Hartley	Construction Div.	518-457-4369
J. Harwood	Contract Mgmt. Bureau	518-485-8295
D. Clements	Traffic Engr. & Safety Div.	518-457-3537
N. Barr	ITS Group	518-457-1232
E. Denehy	Transp. & Maintenance Div.	518-457-6914
A. Barshied	Internal Audit	518-457-4680
G. McVoy	EAB	518-457-5672

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

T. Oelerich	Region 10	631-952-6632
M. Silo	Region 1 - Design	518-474-6285
P. Crocker	Region 8 - Design	845-431-5848
J. Scariza	Region 10 - Design	631-952-6654
H. Weiss	Region 11 - Design	718-482-6468
R. Frederick	Region 1 - Construction	518-474-6562
M. Anderson	Region 8 - Construction	845-575-6002
G. Knips	Region 10 - Construction	631-952-6041
P. Eng	Region 11 - Structures	718-482-4822

Consultant Team

M. Cuddy	Parsons Brinckerhoff	212-465-5743
P. Drennon	Parsons Brinckerhoff	703-742-5756
N. Smith	Nossaman, Guthner, Knox & Elliott, LLP	213-612-7837
R. Ross	Parsons Brinckerhoff	212-631-3831
S. Forrestel	Cold Spring Construction	716-542-2011

This Design-Build Strategic Planning Workshop meeting was held to establish the basis for the development of the NYSDOT process and procedures for acquiring and administering Design-Build services. The following is a list of attached documents that were developed for use and discussion at the meeting or were a result of the meeting discussions:

1. Workshop Description
2. Workshop Agenda
3. Workshop Prototype Project - Description
4. Workshop Prototype Project - Plan
5. Workshop Prototype Project - Sections
6. Workshop Prototype Project - Table of Risks Established at Workshop
7. Department Design-Build Goals and Objectives Established at Workshop

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP

April 2, 2002- April 3, 2002

WORKSHOP DESCRIPTION

New York State Department of Transportation has decided to add the Design-Build contracting process as an option to the delivery of the capitol program. It has taken the initial steps of preparing legislation that will permit the use of Design-Build, and has retained the consultant firm of Parson Brinckerhoff to assist with the development of management and administrative procedures for the use of Design-Build.

Establishing the basis or foundation for the development of a Design-Build process as well as all of the follow-on tasks, is **the most critical step** in developing procedures for acquiring and administering design-build services.

There is a tendency to want to jump straight into recommendations for a selection process. But all owners, like all projects, are unique. Adopting a process from one owner to another doesn't work. The same holds for projects. That doesn't mean that successful design-build techniques can't be identified and incorporated into design-build process for NYSDOT. It does mean that, unlike design-bid-build, design-build is not a rigid delivery method or process. There are many variations in approaches to design-build that can be employed to satisfy the "uniqueness" of individual owners and projects. With that in mind, a NYSDOT design-build procurement process can be developed to provide a disciplined set of procedures and guidelines, and at the same time be flexible enough to address the uniqueness of individual projects.

Establishing the basis for a design-build process starts with "strategic planning". This workshop is strategic planning with the objective of developing a **"Design-Build Procurement Strategy"**. It will be facilitated by our consultant, Parsons Brinckerhoff, and involves the efforts and participation by key owner staff.

When developing the over-arching design-build procurement process under which individual projects will be executed, it is critical that senior NYSDOT executives define the Design-Build Procurement Strategy that will be the basis for the process. This will ensure both the input of the Department's best experience and creativity and the senior level ownership and buy-in necessary to implement the final design-build process.

- **Session 1** of the workshop will provide an understanding of design-build, the reasons for design-build, its benefits, and owner's approach to design-build. This initial "education" on design-build will be a refresher for some and new information for others … it is aimed at focusing everyone's intellectual juices to the workshop task at hand. Session 1 will additionally set the stage for the strategic planning by reviewing the results of a review of existing NYSDOT policies and procedures and the results of a national survey on how other owners are implementing transportation design-build.

- **Session 2** starts the development of the **"Design-Build Procurement Strategy"** by establishing goals and objectives and assessing and allocating risk. We will use a potential, real project as a "Strawman" to facilitate the strategic planning at the programmatic level. The products of this session will come from the spirited participation, discussion and debate of the workshop attendees.

  As subsequent design-build projects are undertaken, project goals specific to each project can and should be established within the overall design-build process and the program goals. The project goals in turn will identify the project's uniqueness and guide the tailoring of the process.

  An added advantage of performing the risk assessment at the program level is that it will help identify where programmatic waivers (or modifications) to FHWA and NYSDOT policies and rules/regulations will have to occur. This relieves the necessity to seek waivers every time a new design-build project is developed.

- **Session 3** concludes the strategic planning by identifying challenges and contracting options; examining the full range of approaches to design-build, contract management and steps in the procurement process; and providing guidance for incorporation into the NYSDOT design-build procurement process. Again, the guidance will come from the discussion and consensus of the attendees.

We cannot stress enough how important the strategic planning approach described above is to the success of developing procedures for acquiring and administering design-build services.

The agenda for the workshop is attached

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP
April 2, 2002- April 3, 2002

AGENDA

Tuesday, April 2, 2002

1:00 PM
- Introductions and Purpose of the Workshop (Cuddy)

1:15 PM
Session 1: Understanding the Design-Build Process (short break in middle)

Design-Build … "a Delivery Method" … emphasis on transportation (Drennon)
- Historical Perspective
- Benefits of Design-Build
- Owner's Approach to Design-Build
  - The Design-Build Decision
  - Procurement Strategy Development
  - Procurement Process Development
  - Evaluation & Selection
  - Contract Administration
- Case Studies

3:30 PM BREAK

3:45 PM
NYSDOT's Design-Build Initiative

Briefing of the Results of Task 1, Review of Existing State (NYSDOT) Policies and Procedures (Zealley)
Briefing of the Findings of Task 2, Research Industry Practices Related to Design-Build and Preparation of a Design-Build Practice Report (Cuddy)

4:15 PM
Legal Issues

Review of the Pending Legislation Relative to the Results of Tasks 1 and 2 (Smith)
- Commonalities, flexibilities and constraints
- Needs for modifications to rules, procedures and regulations
- Flexibility available in developing a design-build procurement process

4:45 PM
Summary and Close (Drennon and Cuddy)

6:00 PM Dinner and Design-Build Project Presentation (Cuddy and/or Drennon)

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP
April 2, 2002- April 3, 2002

AGENDA

Wednesday, April 3, 2002

8:30 AM Continental Breakfast

9:00AM Session 2: Design-Build Procurement Strategy Development

- Description of NYSDOT Prototype Project (Cuddy)
  - To be used as a "Strawman" to facilitate discussion

- Workshop Objective in the Context of Task 3, Develop Recommendations for a Selection Process to Obtain a Design-Build Entity and Preparation of a Design-Build Process Report and the Prototype Project (Drennon)

- Stakeholder Identification and Issues … how they fit into a procurement strategy (Zealley)

- Development of NYSDOT Objectives (Drennon)

10:30 AM COFFEE

- Development of Program Goals (Drennon)
  - Obtaining a generic preference for the relationships between Time, Quality and Cost … brainstorm specific Prototype Project Goals
- Identification, Assessment and Allocation of Risks (Smith)
  - Facilitated by Prototype Project

12:00 NOON Working Lunch

Session 3: Design-Build Procurement Strategy Development (continued)

- Identification of the Challenges in NYSDOT Design-Build (Drennon)

- Contracting Options (Smith)
  - Generic preference … specific for Prototype Project

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP AGENDA

April 2, 2002- April 3, 2002

- Guidance on Design-Build Approaches … specific for Prototype (Staff)
  - Bid or propose
  - Low bid or best value
  - Amount of preliminary design
  - Risk sharing
  - Prescriptive or performance specs
  - NYSDOT's role
  - QA/QC approach
  - Design review
  - Partnering
  - Maintenance/Warranties
  - ISO 9001
  - Incentives/Award fees
  - Stipends
  - Right-of-Way
  - Utilities
  - Environmental permits
  - Insurance
  - Cost containment

2:30 PM COFFEE

- Procurement Process Guidance … specific for Prototype Project
  - Steps (Zealley)
  - Request for Qualifications (Zealley)
    - Evaluation & Selection Criteria
  - Request for Proposals (Zealley)
    - Evaluation & Selection Criteria
  - Evaluation & Selection Process (Drennon)

4:00 PM Workshop Wrap-up (Drennon and Cuddy)

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

DESIGN-BUILD STRATEGIC PLANNING WORKSHOP

April 2, 2002- April 3, 2002

PROTOTYPE PROJECT DESCRIPTION

The Reconstruction of Route 9A, Battery Place to Chambers Street

New York County, New York

GENERAL

In light of the events of September 11th and the resulting impacts on lower Manhattan, a design-build project is being proposed to address a component of the overall reconstruction effort. With the demolition and removal of the debris from the World Trade Center (WTC) building site nearing completion, an innovative, cost effective and coordinated redevelopment program needs to be implemented that will facilitate the reconstruction and consequently benefit the effected residential neighborhoods, such as Battery Park City, as well as local area business and commerce. The infrastructure and facilities that were impacted by the collapse of the WTC towers include:

- The WTC building site and numerous adjacent buildings;
- The recently reconstructed Route 9A and many of the local side streets;
- The MTA's subway system;
- The PANYNJ's PATH system;
- The approach ramps to the Brooklyn Battery Tunnel and the Battery Park underpass
- Subsurface infrastructure, most notably the communication and power facilities serving lower Manhattan.

As of last September, the current Route 9A Reconstruction Project was nearing completion and consisted of a six-lane landscaped at-grade boulevard with dedicated turning lanes and contiguous service roads. The Route 9A project extended roughly from Battery Place, on West Street, along 12th Avenue up to the elevated portion of the Miller Highway at 59th Street. As part of the overall program, immediately west of the boulevard is a redeveloped waterfront including the Hudson River Park. The project was developed to improve and enhance access to the redeveloped waterfront from the residential neighborhoods along the west side of Manhattan including Clinton, Chelsea, the West Village, TriBeCa, and Battery Park City.

West Street itself did not visibly sustain significant collateral damage from the collapse of the twin towers. In fact, during the recovery effort West Street was closed to the traveling public in the vicinity of the site and was used as a staging area from which the site was accessed. With the recovery effort nearing completion, West Street will soon be re-opened to the public.

PROJECT DEFINITION

This project was selected to address the immediate surface transportation needs of lower Manhattan as quickly as possible, as well as to support other planned redevelopment projects in the vicinity of the former WTC site. An expressed goal of the organizations involved with the reconstruction effort is to provide a better integration of Battery Park City and World Financial Center with the other parts of lower Manhattan by continuing the street grid across Route 9A to allow easier access for pedestrians and local traffic. This would also make more convenient access to the Hudson River waterfront by the public. The cost of the project is estimated at $500 million and there is now the opportunity to take advantage of emergency federal funding, to create an enhanced section of Route 9A. Given such a scenario, design build is a perfect approach as a procurement method for improving upon a critical section of a New York City highway on a fast track schedule.

Reconstruction of 9A from Battery Place to Chambers Street

The prototype project to reconstruct the lower section of Route 9A would consist of a depressed roadway from the entrance to the Battery Park Tunnel at Battery Place to just north of Chambers Street. The depressed section of roadway would maintain four lanes of mainline traffic with ramps at selected locations. West Street would be retained as an at-grade street for local traffic. By depressing this section of Route 9A, the following benefits to the transportation network and community would be realized:

- There would be greatly enhanced at-grade pedestrian access to the World Financial Center, Battery Park City and the redeveloped waterfront. As a result, several of the existing, damaged and planned pedestrian overpasses could be eliminated. However, the "signature" pedestrian overpass to Stuyvesant High School would be retained.

- At-grade intersections for mainline traffic would be eliminated, such as those at Chambers, Murray, Vesey, Liberty, and West Thames Streets;

- The entrance and exit to the Brooklyn Battery Tunnel (BBT) could be reconfigured eliminating congestion at street level. Depressed ramps from the BBT could connect directly to the newly depressed section of Route 9A.

Stakeholders

In realizing the maximum benefits of this design-build project, extensive coordination would be required amongst various governmental and transportation agencies as well as local community groups. This includes, but would not be limited to:

- NYS Governor's Office
- NYC Mayor's Office
- FEMA
- FHWA
- Lower Manhattan Redevelopment Corp.
- NYC Economic Development Corp.
- PATH Train System
- PANYNJ
- TBTA
- NYSDOT
- NYSDEC
- NYCDOT
- NYCDEP (sewers)
- NYCDPW (water)
- NYC Lighting
- Communication and Telephone Systems
- Verizon
- Con Edison
- Hudson River Conservancy
- Local Community Boards
- Battery Park City Authority
- Battery Park City Residents

Other Issues

There are significant design-related issues associated with depressing a section of Route 9A:

If the concept of depressing Route 9A is advanced, the logical approach to construction would be fairly straightforward: open cut and excavate. However, should the concept to depress Route 9A evolve into more of a covered highway structure the issue of the use of the air rights over the highway will become a major issue. More open space vs. more development space.

Soil Stability – Rock is over 60 ft below existing grade. While the WTC "bath tub" was largely left structurally in tact, there was still extensive earth moving and excavation required to clear the site. Given the extent of the excavation and the severity of the initial impact of the collapsing towers, stability of the adjacent soils under West Street would need to be thoroughly investigated; potentially dictating the method of constructing the project.

Maintenance & Protection of Traffic – Regardless of the scope of the design-build prototype project, a complex and well coordinated MPT plan needs to be implemented, addressing concerns such as:

- Access to the BBT and Battery Park underpass ramps;
- Minimal inconvenience to the residents of Battery Park City and users of the World Financial Center;
- Impacts on surface transportation, as well as area business;
- Minimal impact during the restoration to the communications and utility facilities; and
- Coordination with adjacent construction projects part of the overall redevelopment effort.

This could also be looked upon as an opportunity to address the larger traffic control issues associated with the redevelopment of lower Manhattan.

Relocation of Infrastructure – Presently, there exists a 78-inch diameter combined sewer under West Street, with approximately 16 ft. of cover. There is also an existing 66-inch diameter water main with approximately 11 ft. of cover crossing West Street between Vesey and Liberty Streets. A significant number of the communications lines from the Verizon facilities in the area were also severely damaged by the collapsed towers. In depressing Route 9A below West Street, these facilities, as well as other ancillary infrastructure such as lighting, power, and gas would need to be repaired and relocated.

PATH Tunnels – Two PATH subway tunnels cross below West Street also between Vesey and Liberty Streets, with top of rail elevation of 54.0 and 62.5 respectively. With a grade elevation of varying between El. 105 and El. 109, and assuming a tunnel height conservatively of 20 feet, there is approximately 22 ft of cover over the PATH tunnels. Regardless, the structural support system of the depressed Route 9A would need to be considered when crossing over the PATH tunnels.

PROJECT LIMITS

HUDSON RIVER

SOUTH PATH SUBWAY TUNNEL

NORTH PATH SUBWAY TUNNEL

NORTH

STUYVESANT HIGH SCHOOL

WORLD FINANCIAL CENTER

WORLD TRADE CENTER SITE

BATTERY PARK CITY

BATTERY PARK

CITY

WEST THAMES ST.

RECTOR PL

SOUTH END AV

BATTERY PL

ALBANY ST

PED. BRIDGE

WEST STREET

ROUTE 9A

PED. OVERPASS

RIVER ST

NORTH END AV

MURRAY ST

WARREN ST

STREET

MURRAY

CHAMBERS

WASHINGTON ST

GREENWICH ST

DUANE ST

HUDSON ST

WEST BROADWAY

CHURCH

PARK PL

BARCLAY ST

VESEY

VESEY ST

CORTLANDT ST

DEY ST

LIBERTY

LIBERTY ST

CEDAR ST

WALL ST

NEW ST

B BROADWAY

JOHN ST

FULTON ST

ANN ST

PINE ST

EXCHANGE PL

EXCHANGE AL

TRINITY PL

EDGAR ST

MORRIS ST

CARLISLE ST

MORRIS ST

CASTLE CLINTON NATIONAL MONUMENT

TUNNEL

BATTERY PARK

PARK

BATTERY

TUNNEL

BATTERY PLACE

BROOKLYN

STATE ST

WHITEHALL FERRY TERMINAL

PETER MINUIT PLAZA

WHITEHALL ST

PEARL ST

BRIDGE ST

STONE ST

BEAVER ST

WATER ST

BROAD ST

S WILLIAM ST

PIER A

1 PL

2 PL

ENTRANCE

EXIT

1/9

N/R

A

C

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

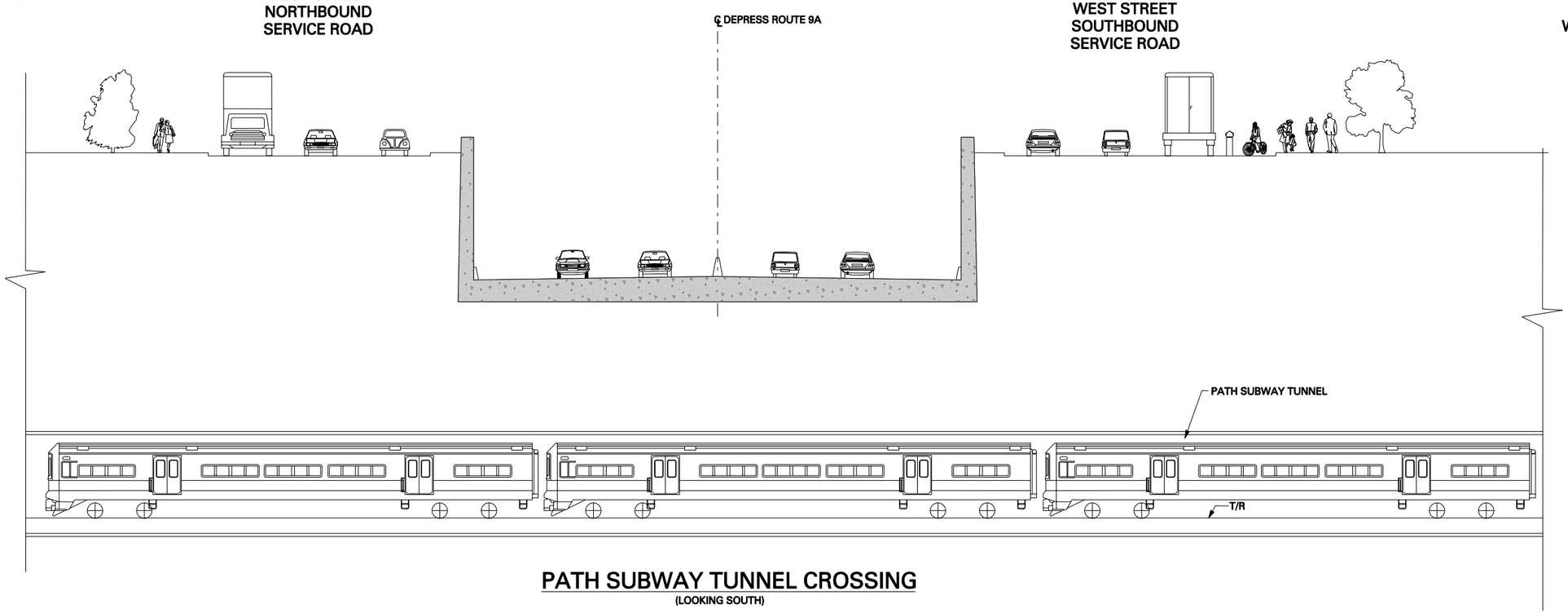
DESIGN-BUILD STRATEGIC PLANNING WORKSHOP

PLAN

DATE: 2-3 APRIL 2002

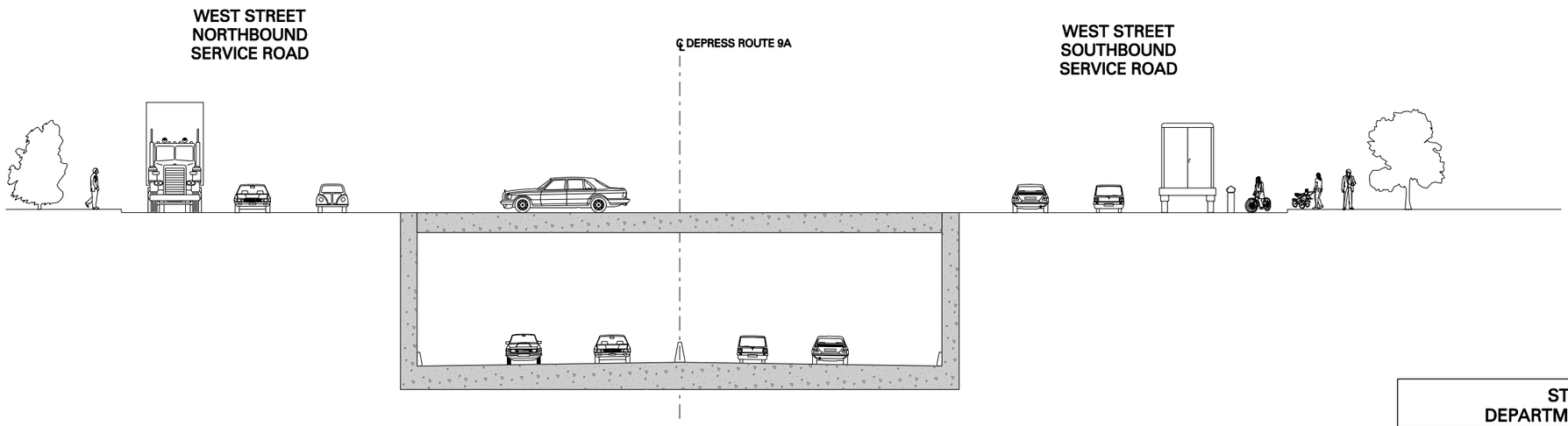
SCALE: NONE

PARSONS BRINCKERHOFF



PATH SUBWAY TUNNEL CROSSING

(LOOKING SOUTH)



LIBERTY STREET INTERSECTION

(LOOKING SOUTH)

PB PARSONS BRINCKERHOFF

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

DESIGN-BUILD STRATEGIC PLANNING WORKSHOP

SECTIONS

DATE: 2-3 APRIL 2002

SCALE: NONE

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP

April 2, 2002- April 3, 2002

Prototype Project: The Reconstruction of Route 9A, Battery Place to Chambers Street

New York County, New York

Table of Risk Ratings Established At Workshop

Risk	Effect	Prob.	Impact	Rating	Mitigation/ Responsibility
Geotech	Time/$	3	3	9	Reduce uncertainty: Extensive sampling Ground penetrating radar Require DB to undertake add'l testing Need to balance cost certainty, desire for low price, accelerated schedule
Utilities	Time/$/ public perception	3	3	9+	Reduce uncertainty: Surveys Allow DB to perform relocation work Legislation? Need to balance many factors
Transit lines					
City interference					
MPT	Public perception/ safety	3	3	9	NYC issues—include k provisions to address DOT investigation and disclosure of parameters Ask DB to provide the MPT plan
BP City residents					
BP City businesses					
ROW	Time/$	1	1	1	Need to determine who owns what
Haz mat	Time/$	2	1	2	Contract provision
Archaeological					

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP
April 2, 2002- April 3, 2002

Prototype Project: The Reconstruction of Route 9A, Battery Place to Chambers Street
New York County, New York

Table of Risk Ratings
Established At Workshop

Risk	Effect	Prob.	Impact	Rating	Mitigation/ Responsibility
Groundwater					
Coordination with other redevelopment					
NIMBY					
AQ attainment					
Federal Permits	Time/$	2	3	6	
City Permits	Time/$	3	3	9+	Pre-proposal agreement with City setting parameters for obtaining permits DB responsibility for obtaining PS&E approval DOT retains risk of changes by City
Unions and PLAs					
FHWA					
HRPT					
Materials supply					
Disposal of excavation					
Site access					
Construction impacts—noise, dust, light					
Construction inspection					
Security					
Weather	Time/$	2	1	2	
Schedule					
Availability of funds					
Cost overruns					

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP
April 2, 2002- April 3, 2002

Prototype Project: The Reconstruction of Route 9A, Battery Place to Chambers Street
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Table of Risk Ratings Established At Workshop

Risk	Effect	Prob.	Impact	Rating	Mitigation/ Responsibility
Special interest groups					
Community relations	Time/$/ public perception	3	3	9	Community impact management quals is a selection criterion Require DB to produce and implement a plan
Safety	Time/$	3	3	9	
Public health					
Litigation	Time/$	3	3	9	Talk to env groups in advance Input from community groups Dual NTP
Catastrophes	Time/$	1	3	3	
Strikes/labor disputes	Time/$	1	3	3	
War/sabotage/ terrorism	Time/$	1	3	3	
Design reviews					

NYSDOT DESIGN-BUILD STRATEGIC PLANNING WORKSHOP

April 2, 2002- April 3, 2002

DEPARTMENT DESIGN-BUILD GOALS & OBJECTIVES ESTABLISHED AT WORKSHOP

- Alternate Delivery Systems
- Minimum Public Impact Due to Construction
- Abutters Concerns – Context Sensitive Solutions
- Better/Faster/Smarter
- Cost Effective
- Environmentally Friendly
- Innovative
- Faster Delivery
- Operate Transportation more Efficiently (ITS, TDM)
- Maintainability
- Safe & Secure
- Reliable Delivery
- Smaller Staff Resources
- Contract Operate & Maintain
- Warranties
- Cost Certainty

NYSDOT Design-Build Strategic Planning Workshop

New York State Department of Transportation

April 2-3 , 2002

Workshop Objectives

- Understand the Design-Build Process
- For State-wide Program:
  - *Identify Expected Stakeholders*
  - *Develop NYSDOT Objectives*
  - *Develop Generic Program Goals*
  - *Identify Expected Risks & Allocation*
  - *Identify Challenges to DB in New York*
  - *Identify Contracting Preference*
  - *Choose Preferred DB Approaches*

2

Workshop Objectives *(continued)*

- For Prototype Project:
  - *Facilitate State-wide Program Strategy*
  - *Show & Test How Strategy Process Works for a Project*
  - *First Cut at Identifying Project Stakeholders and Risks & Allocation*
  - *First Cut at Developing Project Goals and DB Approach*
- Provide Guidance on Procurement Process

3

Personal Experience

- 40 Years Associated with Design-Build
  - *33 as Owner*
  - *7 as Consultant, Designer & Design-Builder*
- DB is a Different Way of Doing Business
  - *Quality is Ingrained in the Process*
- Built on Teamwork, Trust & "Ownership"
  - *DB'er Represents Owner's Interests*
- Designer and Builder Need to Work Together from Day One to Completion

4

Design-Build through the Ages

- The Great Pyramids
- The Parthenon
- The Great Wall of China
- The Cathedrals of Europe
- The Brooklyn Bridge

Robert McManamy,Editor-in-Chief, Design · Build

5

Today's Industry Trends

- Just-in-Time Delivery
- Out-Sourcing
- One-Stop Shopping
- TQM
- Partnering
- ADR

Robert McManamy, Editor-in-Chief, Design•Build

6

Traditional

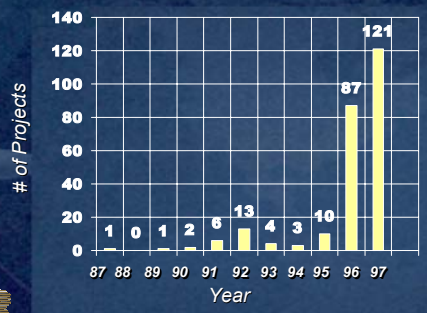
- Big Projects Split …"Spread the Work"
- Separate Designer and Contractor
- Designer … "Mini-Brooks Bill"
- Full Design Review
- Owner Owns Design
- Contractor … "Low Bid"
- Owner Manages Interfaces
- Owner QC/QA
- The Rule: Changes & Claims & Litigation

The Future

Alternate Delivery Techniques

- Prequalification
- Source Selection (Best Value)
- Warranties & Long-Term Maintenance
- Design-Build & CM at Risk
- Contractor QC/QA
- Incentives … Award Fee
- Trust … Partnering

Warranties … *"ten years"*



Reasons for Design-Build

- Early Completion
- Lower Cost / Certainty of Final Cost
- Increased Quality
- Innovation
- Reduced Owner Staffing
- Less Management Effort
- Less Conflict

Conclusion of Past Research (1995)

The public would prefer a greater level of impact in exchange for a shorter construction duration.

Benefits of Design-Build

- Single Source Responsibility / Accountability
- Less Management / Coordination by Owner
- Avoid Adversarial Interface / Disputes between Design & Construction
  - *Change Orders Reduced*
  - *Claims Reduced*
- Improved Risk Management
- Time Savings
- Cost Savings / Certainty
- Quality
  - *Innovation / Creativity*
  - *Maximize Strength of Contractor*

Getting Started
A Basic Decision

- In Order to Implement Design-Build, Do You Have the **In-House**:
  - *Capability & Expertise in DB*
  - *Experience with DB*
  - *Capacity*
- Do You Need Help?

The Owner's Approach

- The Design-Build Decision
- Procurement Strategy Development
- Procurement Process Development
- Evaluation & Selection
- Contract Administration

The Design-Build Decision
Trends (Owners)

- Faster, Better, Less Cost
- Less Conflict, Management & Staff
- More Innovation
- Prequalifying & Shortlisting
- Selecting on "Best Value" & "QBS"
- Sharing Risks
- Releasing Control
- Going to **"Design-Build"** & "CM@Risk"

Procurement Strategy Development

- Establishing:
  - *Owner Objectives*
  - *Project Goals*
- Understanding:
  - *The Challenges*
  - *Contracting Options*
- Deciding on a Design-Build Approach

Time
Quality
Cost

Understanding the Challenges

- Breaking Tradition & Culture *... Managing Change*
- Education & Training
- Timely Decisions *... Resolve Issues*
- Allocation of Risks
- **Communicate, Communicate & Communicate**

Understanding the Challenges *(continued)*

- Traditional Rules & Regulations
- Stakeholder Concerns *... and involvement*
- Building Trust
- Instilling Teamwork
- **How Much to Let Go? ... *"the Issue of Loss of Control"***

Understanding Contracting Options

- Private Sector vs. Public Sector
- State and Federal Law
- Options
  1. *Competitive Bids (low price)*
  2. *Competitive Bids w/High Responsibility Standards*
  3. *Competitive Bids w/Alternative Proposals*
  4. *Price & Other Factors (without discussions or BAFO)*
  5. *Price after Discussions and BAFO*
  6. *Price & Other Factors after Discussions & BAFO … I.e., Best Value*
  7. *QBS (w/highest rated proposer) … Two Phases*
  8. *Sole Source Negotiating*
- Project Goals & Owner Objectives

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Deciding on a Design-Build Approach

- Every Design-Build is Unique
- Variations in Approach to DB:
  - *Bidding to Proposing to Negotiating*
  - *Low Price to Best Value to QBS to Sole Source*
  - *Significant to Little to No Preliminary Design*
  - *Traditional to Shared to No Owner's Risk*
  - *Prescriptive or Performance Specifications*

20

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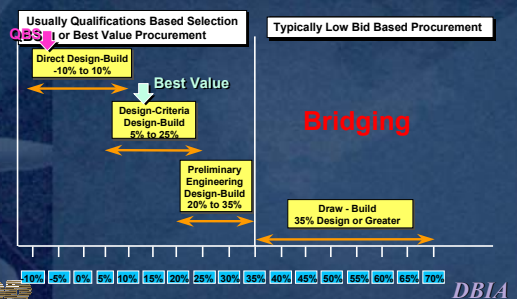
Percentage of Design
(As Included in Design-Build RFP)



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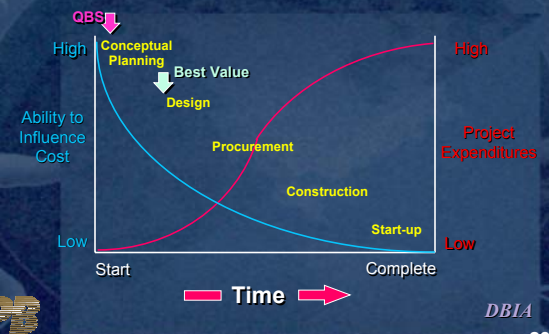
Cost Influence Curve



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Specifications for Design-Build

- Prescriptive vs. Performance
  - *Prescriptive (traditional)*
    - "How to" do it
  - *Performance*
    - Define "required results"

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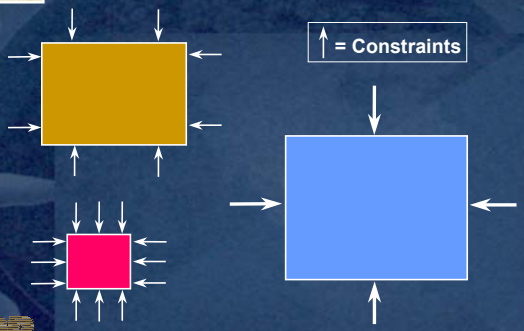
Performance Box



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Additional Challenges

- Organization to Prepare RFP
  - *It's Different*
- RFP is the Product
- Change in Traditions/Culture
  - *Managing vs. Engineering*
  - *Defining vs. Problem Solving*
- Continuous Creativity

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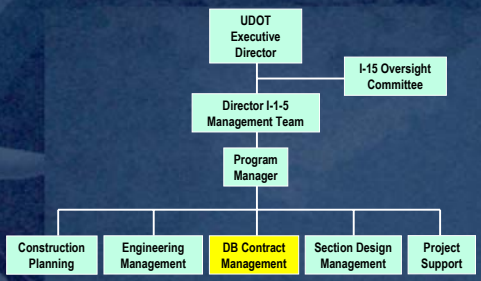
Organization

Procurement Process ... Utah I-15



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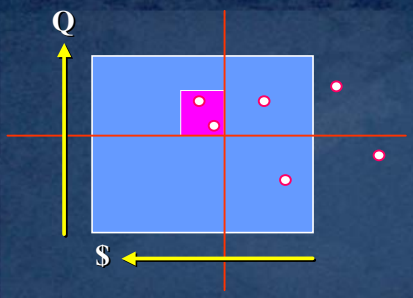
Continuous Creativity



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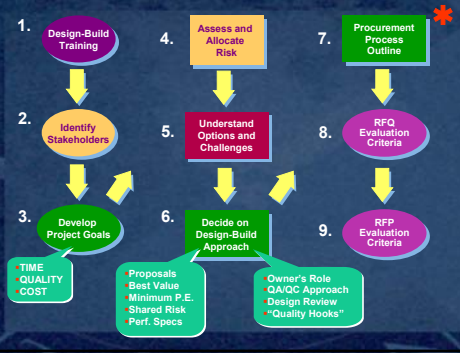
Getting Started ... *The Process of Developing a DB Procurement Strategy*



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Procurement Process Development ... *Typical Steps in the Design-Build Process*

- Request for Letters of Interest (LOI)
- Informational Meeting
- Issue Request for Qualifications (RFQ)
- Short Listing
- Review Draft Request for Proposals (RFP)
- Issue RFP
- Proposal Evaluation
- Selection
- Award/Notice to Proceed

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Request for Qualifications (RFQ) ... *Elements*

- Brief Project Description
- Outline of Procurement Process
- "Rules of the Game"
- Evaluation and Short List Criteria
- Information to Submit with Statement of Qualifications (SOQ)

The Request for Proposals (RFP) ... *Elements*

- Instructions to Proposers
- Scope of Work
- Contract Terms and Conditions
- General Provisions (incl. Quality Program)
- Specifications and Requirements
- Preliminary Engineering
- Reference Documents (Project Data & Info.)

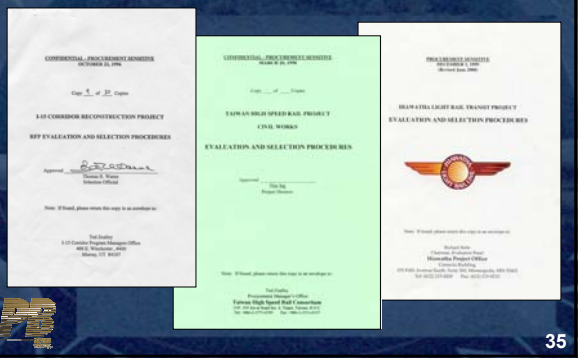
Instructions to Proposers

- Factors to be Evaluated
- What to Submit
- Criteria Guiding Evaluation
  - *"What's Important to Owner"*
- Ratings Guidelines
- How Selection will be Made

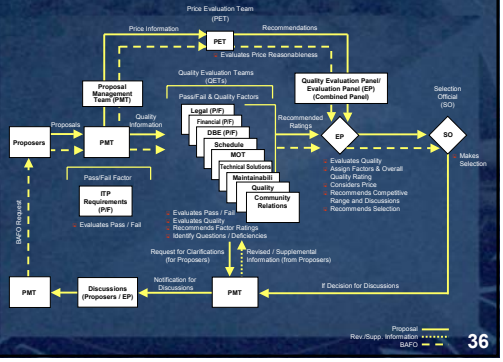
"RFP Evaluation & Selection Procedures"

- Critical to the Discipline, Confidentiality, Fairness, Credibility & Dependability of the Process
- Modeled after: Federal "Source Selection Plan"
- Contains all the Functions, Procedures & Guidelines for Everyone in the Process

E&S Procedures ... *Examples*



Flow Diagram for Evaluation and Selection Process



Keys to Successful Administration

- Organize to Do What You've Said
  - *Small Staff*
- Be Consistent with the Concepts
  - *Partnering*
  - *Fast Track*
  - *QC/QA Oversight (design & construction)*
- People Continuity

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Keys to Successful Administration *(Continued)*

- Preserve the Trust
- Foster Teamwork
- Be Fair & Firm
- Resolve Issues
- Don't Slip Back to Traditional

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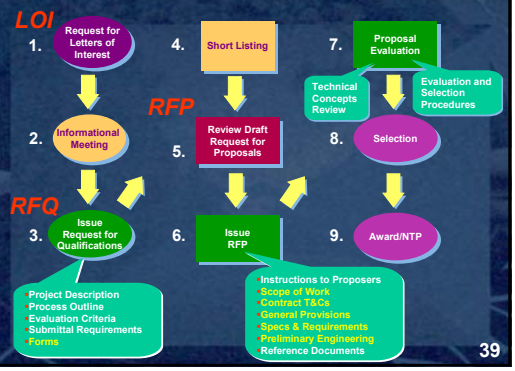
Typical Steps in a Design-Build Procurement Process



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Summary

The Owner's Approach

- Develop a Procurement Strategy **"First"**
- Project Goals the **"Key"**
- **Decide** on a Design-Build Approach
- Embrace **"Teamwork & Trust"**
- Encourage **Creativity**
- Manage **Cultural Change**
- Administer **Consistent** with Strategy

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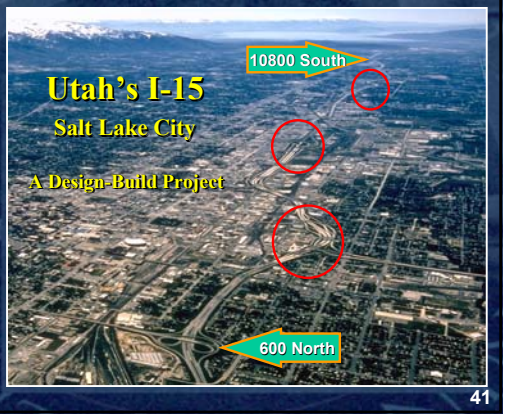
Case Study



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Owner Objectives

(Utah Department of Transportation)

- Transform UDOT
- Resolve Issues ... "No Litigation"
- Meet UDOT Staffing Goals
- Reduce Project Management by UDOT
- Address Public Desires

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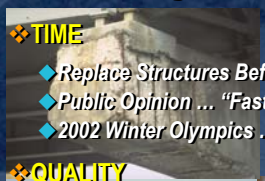
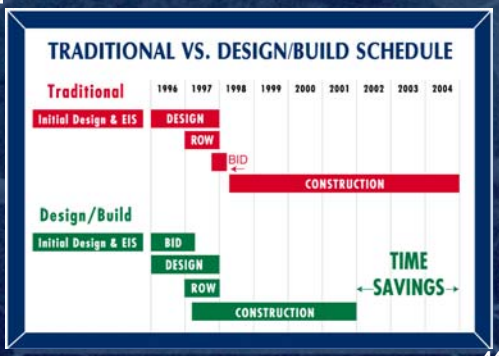
I-15 Project Goals

- TIME
  - Replace Structures Before Failure
  - Public Opinion ... "Faster"
  - 2002 Winter Olympics ... "An End Date"
- QUALITY
  - High...Seismic
  - Safe...Maintainable
- COST
  - Reasonable



UDOT's Time Challenge



TIME *(I-15)*

- 4 1/2 Years! (Demanding public & 2002 Olympics & Safety)
- Must provide FLEXIBILITY for Design-Builder to "Plan, Design, Construct, and Control" project
- FLEXIBILITY Incorporated by:
  - *One contractor*
  - *Contractor quality control/quality assurance*
  - *Early construction*
    - design oversight
    - "over the shoulder"

QUALITY *(I-15)*

- Traditional Techniques not consistent with D-B
- Quality Incorporated by: "Quality Hooks"
  - *Design-Build with Performance Specs (Up front value engineering)*
  - *Best Value (price and other factors)*
  - *Long Term Maintenance/Warranty*
  - *ISO 9001*
  - *Award Fee ($50 M)*
  - *Stipends ($950 K)*

I-15 Performance Specifications

- Drainage
- Roadway Geometrics
- Geotechnical
- Water Quality
- Lighting
- Pavements
- Signing
- Traffic Signals
- Structures
- Maintenance of Traffic
- Maintenance During Construction
- Maintenance After Construction
- ATMS
- Concrete Barriers
- Landscape & Aesthetics

Lighting ... *Performance Specification*

- General Criteria
  - *Design & Construct a Durable Lighting System*
  - *Provide Appropriate Illumination*
  - *Avoid Light Pollution Outside Corridor*
  - *Provide for Ease of Maintenance*
- Specific Criteria
  - *Incorporate ATMS & Aesthetic Requirements*
  - *Uniformity Ratio of 3:1*
  - *Average Lux of 6.5 to 8.6*
  - *Use Sylvania, Phillips or GE Lamps*

Award Fee

- Philosophy & Benefits:
  - *Motivates Desired Performance in:*
    - Schedule/Completion
    - Quality of Work
    - Management
    - Community Relations & MOT
  - *Positive Means for Achieving Results*
    - Financial Incentive to Contractor
    - Consistent with Partnering
  - *Incentivize Performance Throughout Schedule (not just at end)*
- Proven and Successful

Stipends

- $950,000 to Unsuccessful Proposers
- Recognition of Proposer's Investment
- Facilitates Quality in the Proposal
- Ownership of Concepts
- Encourages Participation in Next DB Project

COST *(I-15)*

- Increased Efficiency (design & construction)
- Economies of Scale
- Less Uncertainties/Contingencies
- Standardization
- Time is Money
- Premium for Compressed Schedule

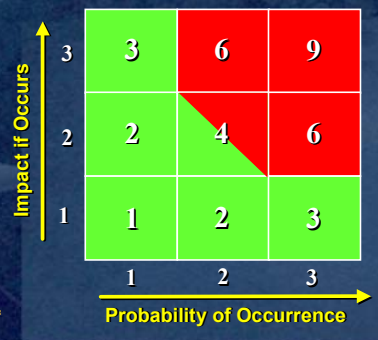
More Strategy *(I-15)*

- Utah Laws
  - *Rules*
- Federal 23CFR & FHWA
  - *Special Experimental Project 14 (SEP 14)*
  - *MOU*
- Risk Analysis/Risk Allocation
- Up front efforts (jump start D-B)
  - *100% Designs for Early Construction*
  - *Refinements to Roadway Geometry*
  - *Utilities*
  - *Drainage*
  - *Railroads*
  - *ROW (Right of Way)*
  - *MOT (Maintenance of Traffic)*
  - *Aesthetics*
  - *Environmental Permits*

Risk Allocation *(I-15)*

Risk/Responsibility Category	"Traditional" Design-Bid-Build		Typical Design-Build		I-15 Design-Build	
	Owner	Designer or Constructor	Owner	Design-Builder	Owner	Design-Builder
Final Alignment Geometry	X			X		X
Geotechnical Data	X			X	X	
Environmental Permits	X	X		X	X	
Design Criteria	X		X		X	
Design Defects	X			X		X
Constructibility of Design	X			X		X
Obtaining ROW	X			X	X	
Coordinating with Utilities & Railroads				X	Agreements	Coordination
Quality Control and Quality Assurance	Significant inspection and testing	Quality of Workmanship	Oversight only	X	Oversight Only	X
Coordination with other work	X			X		X

Risk Analysis



Utilities

- 1500 Crossings
- 600 Potential Conflicts/Relocations
- 40 Utility Owners
- Agreements in Place

Utilities *(continued)*

Design and Construction of Utility Work

Number	Utility Owner Name	Type	Who Does the Work? Design	Construction
1	Carbon & Maxfield Irrigation Company	Irr	DB	DB
2	Insight Cable Television	CTV	DB	DB
3	Midvale City	SS, SD, WTR	DB	DB
4 (&5)	Mountain Fuel Supply Company	Gas	DB	DB
6	Murray City Sewer / Water	SS, SD, WTR	DB	DB
7	Murray City Power - Operations	EL	Utility	Utility/DB
8	Salt Lake City - Dept. of Public Utilities	SS, SD, WTR	DB	DB
9	Salt Lake City Suburban Sanitary Dist. #1	SS	DB	DB
10	Salt Lake City Suburban San. Sewer Dist. #2	SS	Utility	DB
11	Salt Lake County	SD	DB	DB
12	SL County Sewer Imp Dist No. 1	SS	Utility	DB
13	SL County Water Conservancy District	SS	DB	DB
14	Sandy City	SS, SD, WTR	DB	DB
15	Sandy Suburban Imp. District	SS	Utility	DB
16	City of South Jordan	SS, SD, WTR	DB	DB
17	South Salt Lake City	SS, SD, WTR	DB	DB
18	TCI Cablevision	CTV	Utility	Utility
19	US West Communications	Tel	DB	DB
20	Utah Power	EL	Utility	Utility
21	AT&T	No utility conflicts identified at this time.		
22	MCI	FO	DB	DB
23	US Sprint	FO	DB	DB
24	Bell Canyon Irrigation Company	No utility conflicts identified at this time.		
25	Big Ditch Irrigation Company	Irr	DB	DB
26	East Jordan Irrigation Company	Irr	DB	DB
27	Murray Irrigation Company	Irr	DB	DB
28	Union & East Jordan Irrigation Company	Irr	DB	DB
29	Qwest	FO	DB	DB
30	AMOCO OIL Company	Oil	DB	DB
31	Electric Lightwave	FO	DB	DB
32	Brooks Fiber Properties	FO	DB	DB
33	Teleport Communications Group	No utility conflicts identified at this time.		
34	Greenster Telecommunications	No utility conflicts identified at this time.		
35	Cottonwood Improvement Dist	SS	Utility	DB
~~36~~	~~Union Jordan Irrigation Co.~~ (Combine w/#14)	~~Irr~~	~~DB~~	~~DB~~
40	World Com	FO	DB	DB
41	NextLink	FO	DB	DB
42	Central Valley Water Reclamation	SS	DB	DB

ROW

Traditional	Design/Build
Appraisals begin only AFTER all funding available	→ Began appraisals in anticipation of funding
Acquisition STARTS at 100% design	→ Acquisition started during RFP development … obtained rights of entry & Options
IFB AFTER all land is acquired	→ Acquired land through first year of design & construction
3 years (162 parcels)	→ 18-20 months

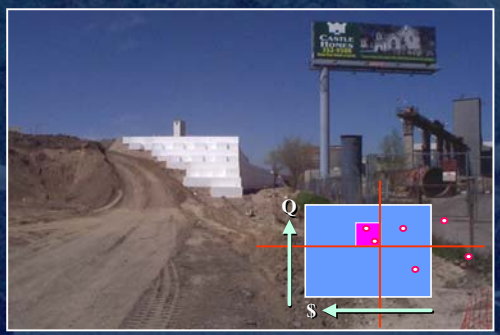
Other Concepts *(I-15)*

- Partnering … "Issue Resolution"
- OCIP (Owner Controlled Insurance Program)
  - *(Cost Avoidance: $ 20 -25 M)*
- Expedited Payment
  - *(Cost Avoidance : $ 30 M)*
- Public Information Program
- 4 CD-ROMS
- Subcontracting

More Challenges *(I-15)*

- Concrete vs. Asphalt
- MOT
- Aesthetics & Landscaping
- Cost Estimate
- Long-Term Maintenance & Warranty
- Continuous Creativity

Continuous Creativity



Steps in the Procurement Process *(I-15)*

Request for Letters of Interest	Mar 96
Informational Meeting	15 May 96
Request for Qualifications (RFQ)	30 May 96
Selection of Prequalified	18 Jul 96
Develop Request for Proposals (RFP)	Feb-Sep 96
Review Draft RFP	Aug-Sep 96
Issue RFP	1 Oct 96
Technical Concepts Review	23 Oct-1 Dec 96
Receive Proposals	15 Jan 97
Evaluation of Proposals (initial)	Jan-Feb 97
Discussion & BAFO (if required)	Feb-Mar 97
Best Value Selection	Apr 97
Award/Notice to Proceed (NTP)	15 Apr 97

Evaluation Factors

- Technical Solutions
  - *Maintenance of Traffic*
  - *Geotechnical*
  - *Structures*
  - *Pavement*
  - *Maintainability*
  - *Other: Aesthetics, Drainage, Roadway Geometry, Lighting, Traffic Signals, Signing, Water Quality, Harmful/Hazardous Materials Remediation, Concrete Barriers, & ATMS*
- Work Plan/Schedule
- Management
- Organizational Qualifications
- Price

Technical Proposal

3.5.4 EVALUATION FACTORS

The technical and price proposals are **approximately equal in weight**.

The Technical Proposal is composed of the following four technical factors **listed in descending order of importance:**

- Technical Solutions
- Work Plan/Schedule
- Management
- Organizational Qualifications

Technical Solutions are broken down further into the following six technical subfactors. **All six are of equal weight.**

- Maintenance of Traffic
- Geotechnical
- Structures
- Pavement
- Maintainability
- Others, in **three levels of significance:**

High:	ATMS
	Drainage and Water Quality
	Roadway Geometrics
Intermediate:	Aesthetics
	Lighting, Traffic Signals, Signing (evaluated together)
Low:	Concrete Barriers
	Harmful/Hazardous Materials Remediation

Technical Proposal Ratings Guidelines

EXCEPTIONAL: The proposer has demonstrated an approach which is considered to significantly exceed stated requirements/objectives in a beneficial way and provides a consistently outstanding level of quality. There is very little or no risk that this proposer would fail to meet the requirements of the solicitation. There are essentially no weaknesses.

GOOD: The proposer has demonstrated an approach which is considered to exceed stated requirements/objectives and offers a generally better than acceptable quality. There is little risk that this proposer would fail to meet the requirements of the solicitation. Weaknesses, if any, are very minor.

ACCEPTABLE: The proposer has demonstrated an approach which is considered to meet the stated requirements/objectives and has an acceptable level of quality. The proposal demonstrates a reasonable probability of success. Weaknesses are minor and can be readily corrected.

SUSCEPTIBLE TO BECOMING ACCEPTABLE: The proposer has demonstrated an approach which fails to meet stated requirements/objectives as there are weaknesses and/or deficiencies, but they are susceptible to correction through discussion. The response is considered marginal in terms of the basic content and/or amount of information provided for evaluation but overall the proposer is capable of providing an acceptable or better proposal.

UNACCEPTABLE: The proposer has demonstrated an approach which contains significant weaknesses/deficiencies and/or unacceptable quality. The proposal fails to meet the stated requirements/objectives and/or lacks essential information and is conflicting and/or unproductive. There is no reasonable likelihood of success; weaknesses/deficiencies are so major and/or extensive that a major revision to the proposal would be necessary.

Evaluation Matrix

EVALUATION MATRIX

Technical Factors
Descending Order of Importance

Proposer	HSR	Org Quals	Mgmt	Work Plan/ Schedule	Tech Solutions
Lake Bonneville	A+	A+ (S)*	G+ (G)*	A-	A+ (A)*
Salt Lake	G-	G+	A+	A+	G-
Wasatch	E-	G+	E-	G+	E-

Technical Subfactors
Equal Weight

Proposer	Tech Subfactors	MOT	Geotech	Pave-ment	Struc-tures	Maintain-ability	Other
Lake Bonneville	A+ (A)*	A	A	A (A+)*	G+	A- (S+)*	G
Salt Lake	G-	A-	G	G	E-	A+	A+
Wasatch	E-	E (E+)*	G+	E-	G (G+)*	E	E-

Other Technical Subfactors

Proposer	Water	ATMS	Drainage/WQ	Roadway Geom.	Aesthet-ics	Light/Sign	RH Mat. Rem.	Conc. Barr.
	High Significance				Medium Significance			Low Significance
Lake Bonneville	G	E-	A+	A	G	G	E-	G (A+)*
Salt Lake	A+	A- (S+)*	A	G	A	A+	E-	G
Wasatch	E-	E-	G+ (G)*	E (E+)*	E	A+	A	G+

Key:
E Exceptional
G Good
A Acceptable
S Susceptible to Becoming Acceptable
U Unacceptable

* Initial rating shown in parenthesis if rating was adjusted during BAFO evaluation

I-15 MOT Plan

(Wasatch Proposal)

Re-striping of I-215 (West)

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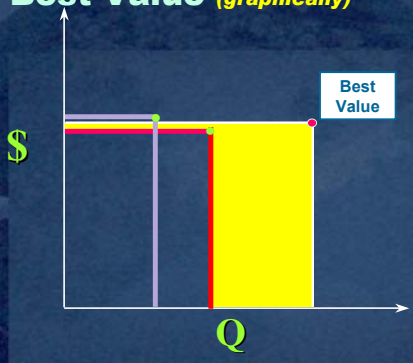
Best Value *(graphically)*



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UDOT I-15 Staff

- RFQ / RFP : 40-50
- Contract : 50-60
- Traditional : 350+

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Utah's I-15 ... *Design-Build Approach*

Summary

- FLEXIBILITY for Design-Builder to "Plan, Design, Construct, and Control" Project
- One Contractor
- Performance Specifications
- Proposals & Best Value Selection
- Little Overall Preliminary Design / Engineering
- Shared Risk
- Contractor Quality Control / Quality Assurance
- Provisions for Early Construction

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In Conclusion ... *Utah I-15 (May 14th)*

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Case Study

New Mexico's

US 70 Hondo Valley

A Design-Build Project

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Project Scope

- 38 miles … $100 Million
- Widening and Reconstruction of Roadway and 5 Bridges from 2 to 4 Lanes
- Relocation of Irrigation and Utilities
- Improvements to Intersections and Drainage
- Retaining Structures; Slopes; Embankments
- Improvements to Geometry

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Stakeholders

- 14 were Identified, of which the Following were the Most Significant:
  - *NMSHTD*
  - *FHWA*
  - *Lincoln County*
  - *Forest Service*
  - *Valley Communities*
  - *Major Landowners*
  - *Historic & Scenic Byways Committee*
  - *Irrigation Districts & Associations*

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NMSHTD Objectives

- Continue Progressive Momentum and be Recognized as a Transportation Leader Locally and Nationally
- Exceed Customers' Expectations
- Do Things Faster and Better and at Less Cost
- Develop Successful Alternate Delivery Systems
- Encourage Innovation
- Minimize Maintenance Costs
- Enhance Productivity through Public/Private Partnerships

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US 70 Project Goals

- Cost Not to Exceed Budget
- High Quality, Safe, Aesthetic, Environmentally Responsible, Durable and Maintainable Project
- Contract Awarded by June 2002
- Project Completion NLT September 2004
- Valid Basis for Evaluation of DB Delivery System

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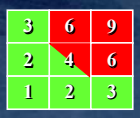
Risks/Challenges

(scored 6 and above)



- 404 Permit … cost & time
- NPDES … compliance
- Geotech [blasting vs. rippability] … cost & time
- Community Issues [during construction]
- Permanent Access … design; ROW; public
- 3rd Party Litigation [NEPA] … delay *
- Funding [in place] … proposer confidence

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DB Approaches

- Proposals … [technical and price]
- Best Value …[adjectival ratings]
- 20% Preliminary Design
- Shared Risk
  - *30% Geotech*
  - *ROW [prioritized by contractor]*
  - *NEPA / 404 Permit / Irrigation Agreements*
- Performance Specifications

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DB Approaches *(continued)*

- Design QC/QA:
  - *Reviews by DB [as-built by NMSHTD]*
  - *Oversight by NMSHTD*
- Construction QC/QA:
  - *QC: DB*
  - *QA: NMSHTD [oversight role]*
- Incentive Fee for Safety
- $750K Provisional Sum for Community Enhancements

DB Approaches *(continued)*

- Price Centers
- Price Options:
  1. *Schedule of Values [unit prices]*
  2. *Optional Pavement Design*
  3. *Durability and Long-Term Performance Commitment [above one year warranty]*
  4. *Standard Insurance Program*
- Utilities (4) … [do their own design & construction]

DB Approaches *(continued)*

Steps in the Procurement Process

- Request for Letters of Interest (LOI)
- Informational Meeting
- Issue Request for Qualifications (RFQ)
- Short Listing
- ~~Review Draft Request for Proposals~~
- Issue RFP (RFP)
- Proposal Evaluation
- Selection
- Award/Notice to Proceed

DB Approaches *(continued)*

- RFQ Evaluation Factors:
  - *Pass/Fail:*
    - Legal
    - Financial
    - Proposal Completeness
  - *Quality Factors*
    - Experience
    - Organization
    - Backlog/Capacity
    - Project Understanding

DB Approaches *(continued)*

- RFP Evaluation Factors:
  - *Pass/Fail:*
    - Legal
    - Financial
    - Compliance with ITP Requirements
  - *Qualitative Factors*
    - Technical Approach
    - Management Approach
    - Qualifications (carry over from SOQ)
  - *Price*

DB Approaches *(continued)*

- Partnering
- Stipends … $200K
- Contract T&Cs and General Provisions
  - *In the Form of Special Provision Revisions (additions & deletions) to Division 100 and Other Divisions*
- CCIP [or Option 4]
- RFQ & RFP on CD ROM [RFQ also website]

Case Study

New Mexico's

US 70 Hondo Valley

- Procurement On Schedule
- 5 Offerors Shortlisted
- Proposals Due "Today"
- NMSHTD Pleased with Process

In Conclusion

- Design-Build is a Valid Delivery Method
- Various Reasons for Doing Design-Build
- Different Way of Doing Business
- Requires Change, Teamwork and Trust
- Shift & Sharing of Control and Risk
- Right & "Not So Right" Approaches
- Start with Goals and Objectives

NYSDOT Design-Build Strategic Planning Workshop

NYSDOT's Design-Build Initiative

Task 1 Overview

Task 1 Purpose

- Review and Identify Policies & Procedures Inconsistent with Design-Build
- Develop a List of Documents to be Revised and/or Supplemented
- Facilitate Effective Implementation of DB While Maintaining New York Engineering Standards and Legal, Financial & Contractual Rights & Obligations

Task 1 Approach

- Compiled a List of NYSDOT Documents
- Technical Documents:
  - *Technical Design Documents Reviewed by Team with NYSDOT Design Experience*
- Non-Technical Documents:
  - *Contractual, Legal & Administrative Documents Reviewed by Others with Experience in These Areas*

Document Rating System

Category	Status with Respect to DB
1	Content incompatible; new documents, forms, etc. required
2	Generally incompatible; significant revisions required
3	Generally compatible; may require limited revisions
4	Fully compatible

Non-Technical Review
... NYSDOT Documents

- Not Developed with Design-Build in Mind:
- NYSDOT Administrative Procedures:
  - *NYSDOT Manual of Administrative Procedures*
  - *NYSDOT Form of Contracts*
- New York State Statutes:
  - *Education Law*
  - *Finance Law*
  - *Highway Law*

Non-Technical Review
... Other Agencies' DB Documents

- New York State Office of General Services
- New York City
- Port Authority
- FHWA
  - *Notice of Proposed Rulemaking: Design-Build Contracting*

Summary ... Example of Technical Documents Ratings

Document	Rating	Document	Rating
Design Procedures Manual:		Hwy Design Manual:	3-4
		▪(Chapter 21)	(2)
▪Part 1 - Intro	2	Standard Specs:	
▪Part 2 – Procedural Steps	2	▪Division 100	1-3
▪Part 3 - Appendices	2-4	▪Division 200-600	3
▪Engineering Instructions	2-3	▪Division 700	3

Summary ... Example of Technical Documents Ratings (continued)

Document	Rating	Document	Rating
Scoping Procedures Manual	4	Const. Div. Safety & Health Prog. Man.	2
Contract Admin. Manual	2	Bridge Manual	3
Construction Inspection Manual	3	Standard Specs for Highway Bridges	4
Pavement Design Manual	3	Bridge Design Data Sheets	4
Policies & Stds for Entrance to Hwys	3	CADD Manual	4

NYSDOT Design-Build Strategic Planning Workshop

Task 2 Purpose

- Find Out How Other Agencies Use Design-Build
- Current Practice for Project Selection, Risk Allocation, Procurement Procedures, Contract Management
- What Lessons Did They Learn

Task 2 Approach

- Identify Design-Build Users
- Develop Survey Document
- Conduct Survey and Interviews
- 10 Interviewed In–Depth
- 8 Sent Survey
- 13 Total Responded

State DOTs

- Arizona
- New Jersey
- Colorado
- Florida
- Ohio
- Utah
- Washington

Other Agencies

- FHWA
- Greenville Co., S.C.
- Naval Facilities Engr. Command
- Alameda Corridor Trans. Authority
- Transportation Corridor Agency
- Utah Transit Authority

Survey Report

- Draft Completed March 19, 2002
- Range of Benefits Achieved
- Range of Lessons Learned
- DB Practices Still Evolving

NYSDOT Design-Build Strategic Planning Workshop

Legal Issues

- Reasons for Legislation
- Procurement Process
- Contract Terms
- Bonds/Insurance

Proposed Legislation

- Procurement Rules
  - *Finance Law Sec. 136-a (design)*
  - *Highway Law Sec. 38 (construction)*
  - *"Best value" approach*
- Licensing

Procurement Process

- First Step in Quality Assurance
  - *DB reputation as selection factor*
  - *Quality of design/technical proposal as selection factor*
  - *DB financial qualifications as selection factor*

Draft Federal Rule on DB

- TEA-21 (June 1998)
  "Any procurement process permitted by applicable State and local law"
- Proposed Regulation Adopts Modified FAR 15 Approach
  - *Consistency*
  - *Fairness*
  - *Best practices*

Procurement Process

- Two-step Process in Draft Legislation
  - *Shortlisting*
  - *"Best value" selection*
- Consistent With Proposed Federal Rule
- Allows Flexibility

Form of Contract

- Standard Contract Forms
  - *Procurement and contract terms intertwined*
  - *Many provisions inconsistent with DB*
- "Instructions to Proposers"
- Revisions to Contract Terms

Contract Terms

- Project Goals
- Identification of Risks
- Risk Allocation Workshop
- Industry Review Process

Insurance

- E & O Coverage
  - *Designer's existing policy*

  vs.
  - *Project policy*
- Owner's Protective Policy
- Interrelationship with Indemnities

Surety Bonds

- Bonds
  - *Need to include design work*
- Mega-projects
  - *100% bond limits pool of contractors*
  - *Premium based on contract value, not face amount of bond*

NYSDOT Design-Build Strategic Planning Workshop

Design-Build
Procurement Strategy Development

Prototype Project

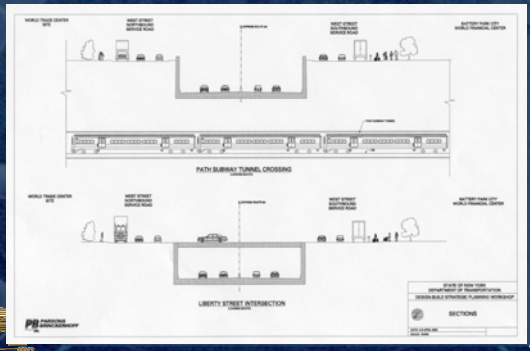
Prototype Project

Reconstruction of Route 9A

Battery Place to
Chambers Place

Prototype Project ... *Plan*

Prototype Project ... *Sections*



NYSDOT Design-Build Strategic Planning Workshop

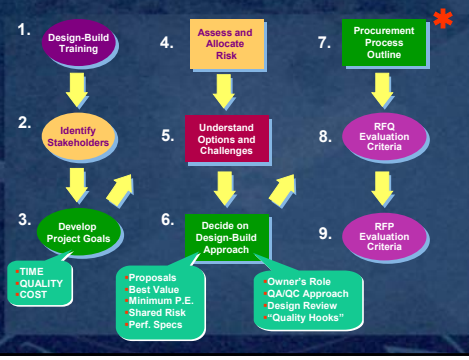
Design-Build
Procurement Strategy Development

Workshop Objective

Workshop Objective

- Provide the Guidance and Establish the Framework for Tasks 3, 5 & 6
  - *Task 3:*
    - Recommend Selection Process for Design-Build
    - Recommend Changes/Guidance Documents & Procedures
    - Design-Build Process Report
  - *Task 5: Documents for Selection Process*
  - *Task 6: Related Documents & Revisions to NYSDOT Manuals & Procedures for DB*

Getting Started ... *The Process of Developing a DB Procurement Strategy*



NYSDOT Design-Build Strategic Planning Workshop

Design-Build
Procurement Strategy Development

Stakeholder Identification and Issues

Stakeholders

- Every DB Project (*actually, every project*) is Unique … each with a Unique Set of Stakeholders
- However, in Developing a Programmatic DB Process, We Need to Look for Commonality in Stakeholders or Stakeholder Types and Ways to Address Them in the Process

Stakeholders *(continued)*

- Who are They?
- What are Their Issues and Concerns?
- How can We Accommodate Them?
- How to Involve/Foster Ownership?

NYSDOT Design-Build Strategic Planning Workshop

Design-Build
Procurement Strategy Development

Development of NYSDOT Objectives

UDOT Objectives

- Transform UDOT
- Resolve Issues … "No Litigation"
- Meet UDOT Staffing Goals
- Reduce Project Management by UDOT
- Address Public Desires

NMSHTD Objectives

- Continue Progressive Momentum and be Recognized as a Transportation Leader Locally and Nationally
- Exceed Customers' Expectations
- Do Things Faster and Better and at Less Cost
- Develop Successful Alternate Delivery Systems
- Encourage Innovation
- Minimize Maintenance Costs
- Enhance Productivity through Public/Private Partnerships

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Stakeholder Objectives
... Hiawatha LRT

- Create a New Tri-Cities/Airport, High Quality Transportation Link
- Create a Catalyst for Land Reuse and Redevelopment
- Provide an Intermodal Connector with Other Corridors and Transit Systems
- Reduce Air Pollution and Automobile Use
- Use Innovative Contracting to Facilitate Relief to Regional Transportation Needs
- Develop "In-House" LRT, Project Management and Innovative Contracting Experience

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NYSDOT Objectives

- What are They?

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NYSDOT Design-Build Strategic Planning Workshop

Project Goals ... Utah I-15

- TIME
  - Replace Structures Before Failure
  - Public Opinion ... "Faster"
  - 2002 Winter Olympics ... "An End Date"
- QUALITY
  - High...Seismic
  - Safe...Maintainable
- COST
  - Reasonable

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Project Goals
... US 70

- Cost Not to Exceed Budget
- High Quality, Safe, Aesthetic, Environmentally Responsible, Durable and Maintainable Project
- Contract Awarded by June 2002
- Project Completion NLT September 2004
- Valid Basis for Evaluation of DB Delivery System

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Project Goals
... University LRT

- TIME (Schedule)
  - Operational for the 2002 Olympics
  - Obtain TEA-21 Funding
- QUALITY
  - High Quality, Aesthetic & Maintainable
  - Sensitive to Stakeholders
  - Build & Strengthen Community Support
- COST
  - Deliver Project within Budget

Project Goals
... Hiawatha LRT

- TIME (Schedule)
  - Test train Segment by fall 2002; Initial Revenue Summer 2003; Total System Late 2004
- COST
  - Do Not Exceed Budgeted Amount for Project
- QUALITY
  - Safe, Reliable, Durable & Maintainable
  - Aesthetic, Pleasing &User Friendly
  - Sensitive to Stakeholders ... Neighborhoods

Project Goals
... Taiwan High Speed Rail

- World Class System
- High Quality
- On Schedule and On Time (2003)
- Within Budget

Project Goals
... Taiwan High Speed Rail (continued)

- GOVERNMENT
  - Commitment to People of Taiwan
- CONSORTIUM
  - Obtain "Best" Design-Build Contractors
  - Fewer & Larger Contracts
- LENDER (and Consortium)
  - Disciplined, Fair, Comprehensive and Credible Procurement Process

Project Goals
... T-Rex

- Minimize Inconvenience to the Community, Motorists and Public
- Meet or Beat the Total Program Budget of $1.6 Billion
- Provide for a Quality Project
- Meet or Beat Schedule of June 30, 2008 (fully operational)

NYSDOT Program Goals

- Broader Goals to Guide Project Goals
- Can Still be Broken Down into:
  - Time
  - Quality
  - Cost
- Let's Use the Prototype to Help

NYSDOT Design-Build Strategic Planning Workshop

Design-Build
Procurement Strategy Development

Identification, Assessment and Allocation of Risks

Risk Allocation *(Transportation)*

Risk/Responsibility Category	"Traditional" Design-Bid-Build		Typical Design-Build		Transportation Design-Build	
	Owner	Designer or Constructor	Owner	Design-Builder	Owner	Design-Builder
Final Alignment Geometry	X			X		X
Geotechnical Data	X			X	X	
Environmental Permits	X	X		X	X	
Design Criteria	X		X		X	
Design Defects	X			X		X
Constructibility of Design	X			X		X
Obtaining ROW	X			X	X	
Coordinating with Utilities & Railroads				X	Agreements	Coordination
Quality Control and Quality Assurance	Significant inspection and testing	Quality of Workmanship	Oversight only	X	Oversight Only	X
Coordination with other work	X			X		X

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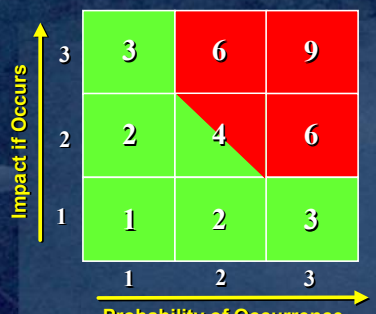
Risk Analysis *(continued)*



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Risk Analysis *(continued)*

Risk	Effect	Probability	Impact	Rating	Mitigation Respons.

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NYSDOT Design-Build Strategic Planning Workshop

Design-Build
Procurement Strategy Development

Identification of Challenges in NYSDOT Design-Build

NYSDOT Design-Build Strategic Planning Workshop

Design-Build
Procurement Strategy Development

Contracting Options

Understanding Contracting Options

- Private Sector vs. Public Sector
- State and Federal Law
- Options
  1. *Competitive Bids (low price)*
  2. *Competitive Bids w/High Responsibility Standards*
  3. *Competitive Bids w/Alternative Proposals*
  4. *Price & Other Factors (without discussions or BAFO)*
  5. *Price after Discussions and BAFO*
  6. *Price & Other Factors after Discussions & BAFO … i.e., Best Value*
  7. *QBS (w/highest rated proposer) … Two Phases*
  8. *Sole Source Negotiating*
- Project Goals & Owner Objectives

NYSDOT Design-Build Strategic Planning Workshop

Deciding on a Design-Build Approach

- Every Design-Build is Unique
- Variations in Approach to DB:
  - *Bidding to Proposing to Negotiating*
  - *Low Price to Best Value to QBS to Sole Source*
  - *Significant to Little to No Preliminary Design*
  - *Traditional to Shared to No Owner's Risk*
  - *Prescriptive or Performance Specifications*

Design-Build Approaches
… NYSDOT Design-Build

- Proposals (quality & cost) ✓
- Best Value Selection ✓
- ~~Stipends~~ ✗
- Performance or Prescriptive Specs
- Amount of Preliminary Design

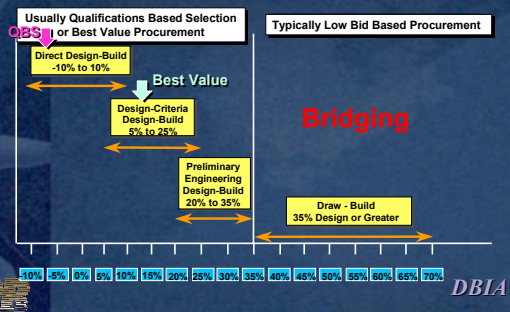
Design-Build Approaches
… NYSDOT Design-Build

- Proposals (quality & cost) ✓
- Best Value Selection ✓
- Stipends
- Performance or Prescriptive Specs
- Amount of Preliminary Design

Level of Preliminary Design or Engineering

- Normally Taken Too Far
- Based on Risk Assessment & Allocation
- Do More Where Owner is at Risk or High Potential for Contractor Contingency
  - *ROW*
  - *Location of Existing Utilities*
  - *Geotechnical*
- Generally 5-20%

Percentage of Design
(As Included in Design-Build RFP)



Design-Build Approaches
... NYSDOT Design-Build (continued)

- NYSDOT's Role
  - *Design Review*
  - *QA/QC Approach*
  - *Quality Plan*
  - *Partnering*
- ISO 9001

Design Reviews
... General Guidance

- Keep Reviews to a Minimum
- Keep Owner/Agency off the Critical Path
- Make Design-Builder Responsible for Design QC/QA
- Satisfy/Accommodate Needs of Owner/Agency and Stakeholders

Design-Build Approaches
... NYSDOT Design-Build (continued)

- NYSDOT's Role
  - *Design Review*
  - *QA/QC Approach*
  - *Quality Plan*
  - *Partnering*
- ISO 9001

Design-Build Approaches
... NYSDOT Design-Build (continued)

- Risk Sharing
  - *Right-of-Way*
  - *Utilities*
  - *Environmental Permits*
  - *Geotechnical*
  - *Hazardous Materials*

Design-Build Approaches
... NYSDOT Design-Build (continued)

- Incentives/Award Fees
- Maintenance/Warranties
- Insurance (i.e., OCIP or CCIP)
- Cost Containment

Cost Containment

- Preliminary Engineering and ROW
- Utility and Interlocal Agreements
- Reasonable Warranty/Maintenance Requirements
- Specify Change Order Limits
- Draft RFP Review
- Limit litigation of DRB Decisions
- Proposal Part of Contract

Cost Containment *(continued)*

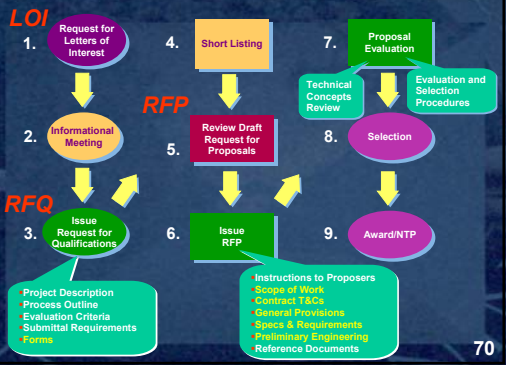
- Schedule of Values
- Specify Markup %'s for Change Orders
- Include Unit or FA Pricing (where scope not well defined)
- "Shared Contingency"
- Stipulated Sum (scope varies)
- Utility Betterments by Utility Owners
- Price Centers

NYSDOT Design-Build Strategic Planning Workshop

Design-Build
Procurement Strategy Development

Procurement Process Guidance

Typical Steps in a Design-Build Procurement Process



Procurement Process ...

Typical Steps in the Design-Build Process

- Request for Letters of Interest (LOI)
- Informational Meeting
- Issue Request for Qualifications (RFQ)
- Statement of qualifications (SOQ) Evaluation and Short Listing
- Review Draft Request for Proposals (RFP)
- Issue RFP
- Proposal Evaluation
- Selection/Award/Notice to Proceed

Request for Qualifications (RFQ) ... *Elements*

- Brief Project Description
- Outline of Procurement Process
- "Rules of the Game"
- Information to Submit with Statement of Qualifications (SOQ)
  - *Forms*
- Evaluation and Short List Criteria

Evaluation Criteria
... Information Owner Provides

- Objectives: Why is Owner Asking for This?
- Clear Understanding of What Proposers are to Provide:
  - *Flexible (don't want "parroted" statements from Proposers)*
  - *Decision-Making "Discriminators"*
  - *Reasonable (consider time & cost to prepare & evaluate)*

Typical Evaluation Criteria
... Request for Qualifications (RFQ)

- Legal
- Financial
- Organization & Firm Experience
- Experience/Qualifications of Key Personnel
- Past Performance
- Project Understanding
  - *Little or No "Project Approach" in RFQ*

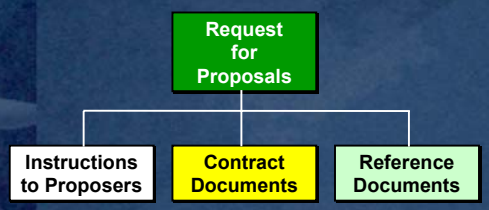
RFQ Guidance
... Program and Prototype Project

- Form of Document
  1. *Program*
- Evaluation Criteria:
  1. *Program*
  2. *Prototype Project*

The Request for Proposals (RFP) *... Elements*

- Instructions to Proposers
- Scope of Work
- Contract Terms and Conditions
- General Provisions (incl. Quality Program)
- Specifications and Requirements
- Preliminary Engineering
- Reference Documents (Project Data & Info.)

The Request for Proposals (RFP) *(continued)*



Instructions to Proposers

- Factors to be Evaluated
- What to Submit
- Criteria Guiding Evaluation
  - *"What's Important to Owner"*
- Ratings Guidelines
- How Selection will be Made

Instructions to Proposers
(continued)

- General Conditions & Requirements
- Forms
- Criteria Guiding Evaluation
  - *"Proposal Documents"*
  - *Supporting Documents*
  - *Pricing Documents*

Contract Documents

- Scope of Project
- Contract Provisions (*legal boilerplate*)
- General Provisions
  - *Procedural Requirements*
  - *Similar to "Division 100 specs"*
- Design Criteria/Performance Specifications

Contract Documents
(continued)

- Construction Specifications
- Drawings and Data
- "High Profile" Requirements
  - *i.e., Utilities, ROW, Public Information, MOT and Access, Environmental*
- Contractor's:
  - *Proposal Documents*
  - *Pricing Documents*

Reference Documents

- For information Only
- Accuracy Not Warranted by State or Other Stakeholder
- Not Included in Contract

Typical Evaluation Criteria
... Request for Proposals (RFP)

- Legal
- Financial Update
- Project Approach
  - *Management*
  - *Technical*
- Price (or scope, if price "fixed")

RFP Guidance
... Program and Prototype Project

- Form of Document
  1. *Program*
- Evaluation Criteria:
  1. *Program*
  2. *Prototype Project*

"RFP Evaluation & Selection Procedures"

- Critical to the Discipline, Confidentiality, Fairness, Credibility & Dependability of the Process
- Modeled after: Federal "Source Selection Plan"
- Contains all the Functions, Procedures & Guidelines for Everyone in the Process

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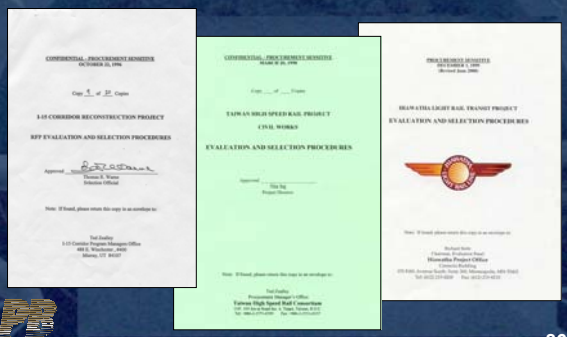
E&S Procedures ... *Examples*



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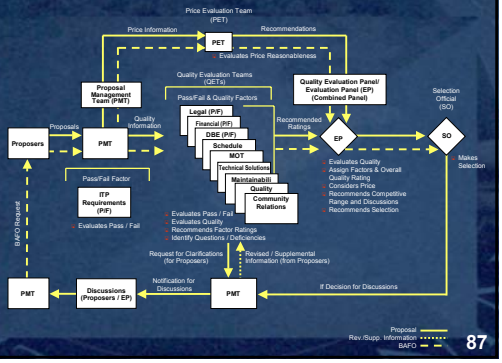
Flow Diagram for Evaluation and Selection Process



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"RFP Evaluation & Selection Procedures" *(continued)*

- Selecting Official
- Stakeholders
- Consultants
- Discussions/BAFO
- Negotiations
- Adjectival (descriptive) vs. Scoring

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NYSDOT Design-Build Strategic Planning Workshop

Workshop Objectives

- Understand the Design-Build Process
- For State-wide Program:
  - *Identify Expected Stakeholders*
  - *Develop NYSDOT Objectives*
  - *Develop Generic Program Goals*
  - *Identify Expected Risks & Allocation*
  - *Identify Challenges to DB in New York*
  - *Identify Contracting Preference*
  - *Choose Preferred DB Approaches*

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Workshop Objectives
(continued)
For Prototype Project:
Facilitate State-wide Program Strategy
Show & Test How Strategy Process Works for a Project
First Cut at Identifying Project Stakeholders and Risks & Allocation
First Cut at Developing Project Goals and DB Approach
Provide Guidance on Procurement Process
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